

Ovarian cysts

- **Non neoplastic**

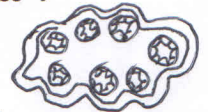
- Follicular cyst

- Anovulatory cycle
 - Single or multiple (< 6 cm) → degenerated (contain serous fluid)
 - micro: Lined with granulosa cells + theca → estrogen



- Polycystic ovary (PCO)

- Thick ovarian capsule and stroma → Repeated anovulatory cycles → Stein-Leventhal syndrome
 - Short, obese
 - Hirsutism, amenorrhea or oligomenorrhea, infertility
 - Multiple, bilateral small (<2cm). Thick ovarian capsule
 - micro: Lined granulosa cells and proliferated theca cells → high estrogen & androgen. *No corpus luteum. No corpus albicans*



- Corpus luteum cyst

- In menstruation or pregnancy
 - Single yellow (<6 cm)
 - Lined with luteinized granulosa cells → progesteron



- Theca lutein cyst

- Excess HCG (trophoblastic tumors, or therapeutic)
 - Multiple
 - Lined with luteinized proliferated theca cells



- Chocolate cyst

- Endometriosis of the ovary
 - Red or brown, contains endometrial glands, stroma, hemosiderin
 - Surrounded by thick fibrotic capsules → fibrous adhesions



- **Neoplastic**

- Dermoid cyst
 - Serous & mucinous cysts
 - Cystic changes in malignant tumors

Ovarian Tumors

- **1ry**

- Surface epithelial (Serous – Mucinous – Endometrioid – Clear cell – Brenner)
 - Sex Cord (Granulosa – Thecoma – Sertoli – Leyding) pure or mixed
 - Germ (Dysgerminoma – Teratoma - 'yolk sac' – Embryonal carc – Chorio)
 - Others: e.g. **Fibroma** (Large & compressing lymphatics. Associated with ascitis & hydrothorax) **Meigs syndrome**

- **2ry Metastatic** (Krukenberg)

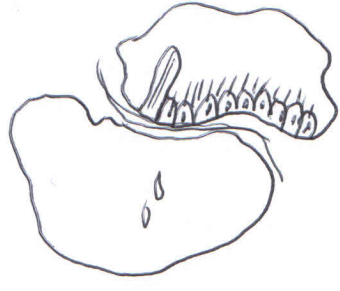
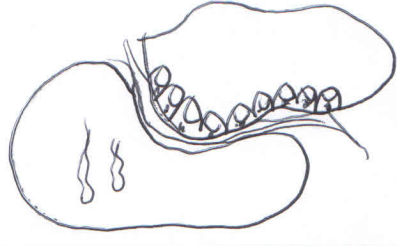
- Metastasis from GIT or breast
 - Bilateral multinodular
 - Microscopic: signet ring carcinoma + hypercellular stroma

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1-Surface epithelial tumors 60%

Origin: mesothelial covering. P.F.: BRCA 1,2 mutation (familial) , Nullipara

	Serous cystadenoma	Mucinous cystadenoma
Incidence	The most common 1ry tumor	2 nd common ovarian tumor
Gross	Size: variable .up to 15 cm Shape: Rounded, oval C/S: uni-loculated or multi-loculated I in large size, serous fluid, <u>thin papillae</u> Capsule: smooth 	larger than serous Rounded, oval More Multiloculated, contain mucin Smooth 
Micro	<u>Cystically</u> dilated glands, separated by <u>fibrous stroma</u>, & lined with <u>columnar epithelium</u> (partially ciliated). <u>Thin papillae</u> inside glands with fibrovascular core. 	<u>Cystically</u> dilated glands, separated by <u>fibrous stroma</u>, & lined with <u>columnar epithelium</u> (mucous secreting & may show <u>vacuoles</u>, or <u>goblet cells</u>). Endocervical or intestinal type 
Borderline tumor	Microscopic <u>Atypia</u> 15 % are borderline 	Microscopic <u>Atypia</u> 10 % are borderline 
Malignant transformation	Gross: N/H + <u>rough capsule</u> + <u>solid areas</u> Micro: adenocarcinoma + <u>Invasion</u> (capsular, stromal, or vascular) <u>Psammoma bodies</u> in tip of papillae 25 % are malignant 	Gross: N/H + <u>rough capsule</u> + <u>solid areas</u> Micro: adenocarcinoma + <u>Invasion</u> (capsular, stromal, or vascular) 10 % are malignant

Endometrioid Tumors

- Benign, borderline, or malignant
- Most of them are malignant similar to endometrioid adenocarcinoma (?)

Brenner tumor

- Rare. Firm Solid grey mass. Size (up to 20 cm)
- Formed of Bladder-like transitional epithelial mass, stroma
- Most of them are Benign



Clear cell tumor Solid sheets or glands formed of malignant clear cell

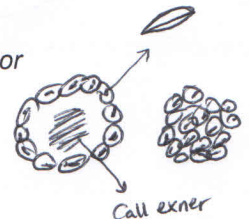
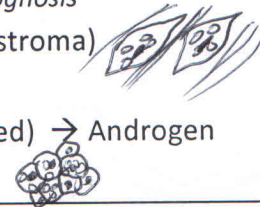
2-Sex-cord stromal tumors

Gross: Mostly unilateral, Mostly Solid, Mostly yellowish, variable in size

Micro:

➤ Granulosa :

- cuboidal cells forming solid masses (trabecular or compact) or diffuse or microfollicular . around acidophilic material call exner bodies)
- Secrete estrogen → precocious puberty , endometrial hyperplasia, mammary hyperplasia, endometrial carcinoma
- Mostly **benign**, malignant in 25% with good prognosis

➤ Thecoma: (plump vacuolated theca cells + collagen stroma)➤ Sertoli (tubules lined by clear cells)➤ Leyding (Solid sheets of eosinophilic cells , vacuolated) → Androgen (Musculinization & Hirsutism)3-Germ cell tumorsDysgerminoma

- Large, solid, grey. No N/H . Similar to testicular seminoma (describe)

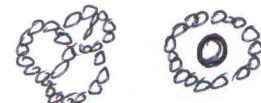
Choriocarcinoma

- Describe (?)

Yolk sac tumor (Endodermal Sinus)

Large, grey, areas of N/H .

Forming microcysts of flat or cuboidal cells + Shiller duval bodies (central vessel, surrounded by space lined by malignant cells) . +ve Alpha Feto

Embryonal carcinoma

- Large, grey, areas of N/H .
- Solid sheets or glandular structure of large malignant cells. Usually mixed with yolk sac or chorio.



C/P and complications of ovarian tumors:

- Asymptomatic
- Pressure →
 - intestinal symptoms , or urinary symptoms
 - Sterility
 - Lymphatic obstruction (Meig's syndrome)
- Torsion → ovarian infarction & Ruptured cyst →
 - bleeding (Shock)
 - pseudomyxoma peritonei (in mucinous borderline or malignant type)
- Malignant transformation → spread - Cachexia
- Hormonal effects (?)

**Tumor markers:**

CA-125 : Epithelial tumors

CEA: Mucinous tumors

HCG: Choriocarcinoma

Inhibin: Granulosa

Alpha-feto protein: Yolk sac

Abnormal female genital tract bleeding

Menorrhagia: Excessive blood during period **Metrorrhagia:** Abnormal bleeding between menstrual phases

- General e.g. Blood diseases, Leukemia
- Local :
 - Pre-puberty :
 - Precocious puberty
 - Tumor (Sarcoma Botryoides)
 - Adult:
 - Dysfunctional bleeding
 - Endometrial hyperplasia
 - Polyps
 - Tumors (e.g. leiomyoma, carcinoma)
 - Menopause :
 - Dysfunctional
 - Endometrial hyperplasia
 - Polyps
 - Tumors (Carcinoma)
 - Pregnant:
 - complications of pregnancy -Abortion - ectopic pregnancy
 - Tumors(Trophoblastic, Leiomyoma)



Acute salpingitis

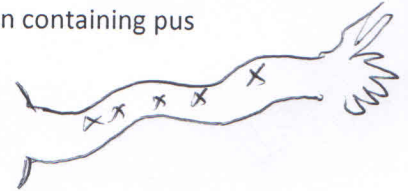
Suppurative inflammation of tubes . (Gonococci , IUD). Tubes are swollen containing pus

Chronic salpingitis

Following acute. Fibrosis & adhesions + chronic inflammatory cells

T.B. salpingitis

2ry (Blood or lymphatics from Intestine) . Morphology : caseating granulomas *(describe)*



Complications of salpingitis: Peritonitis – Tuboovarian abscess– Seterility – Tubal pregnancy

Tubal pregnancy

Congenital diseases of tube - Chronic salpingitis – **Endometriosis**

Distended with hemorrhagic clot & chorionic villi → abortion – peritoneal bleeding



Tumors of the tubes: rare . Adenocarcinoma – Fibroma - Leiomyoma

Tubo-ovarian abscess

Suppurative inflammation of tubes leading to destruction & adhesion with ovaries

Morphology.: Irregular mass. Wall is fibrotic. Lumen contains pus



Chronic Granulomatous Oophoritis: TB or Bilharziasis (rare)

Causes of Vulvitis: same causes of Cervicitis (?)

Bartholin Cyst : similar to nabothian cyst of the cervix (?)

Vulvar Dystrophy (Leukoplakia)

<u>Lichen sclerosus</u>	<u>Lichen simplex chronicus</u>
Skin <u>fibrosis</u> → Atrophic epithelium	Hyperplasia & <u>chronic</u> inflammation
Precancerous	More precancerous

<u>Condyloma accuminata</u>	<u>Condyloma Lata</u>
Caused by HPV 6,11 (not precancerous)	Caused by 2ry Syphilis
Papillary bulky lesion 	Falt lesion 
Branched Squamous cell papilloma + koilocytosis	Hyperplastic skin + syphilitic lesion

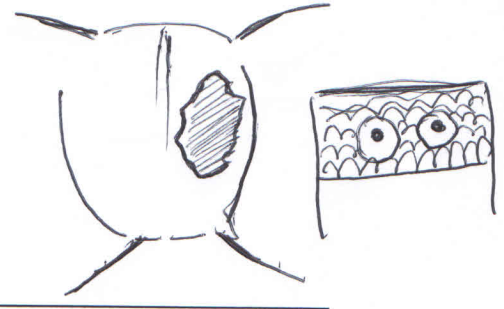
VIN : I, II, III similar to CIN (?) → progress to Carcinoma of the vulva (Sq.C.C similar to cervical carcinoma.)

Paget disease of the vulva

Gross: Red, demarcated, crusted lesion in labia major

Micro: Large vacuolated cells within epidermis (paget cells)

Fate: Invasive after many years



Diseases of Vagina

Congenital.: Absence – Septate double vagina – Lateral Vaginal cyst (Gartner cyst)

Vaginitis.: In low immunity (Bacterial vaginitis by commensal bacilli – Candidiasis 'monilia' – Trichomonas 'green discharge')

Tumors.:

- Benign : rare
- Malignant:
 - Squamous cell carcinoma
 - Clear cell adenocarcinoma: in Daughters of Mothers used DES
 - Embryonal Rhabdomyosarcoma (*Botryoides sarcoma*)
 - Very rare tumor. The age is below 6 years
 - Grape-Like red papillary mass